

REMARKS

Claims 1-3 as amended, remain herein. Claim 4 remains herein but is presently withdrawn from consideration.

Claim 1 has been amended to recite heat-treating the film and the semiconductor layer until a predetermined amount of Si is diffused as an impurity into the semiconductor layer. See applicants' specification, page 7, last paragraph.

1. The finality of the restriction requirement is acknowledged.

2. Claims 1-3 were rejected under 35 U.S.C. §102(b) over published Herner et al. U.S. Patent Application 2003/0030147.

The presently claimed contact formation method includes forming a film comprising Si and Ti on a surface of a layer of a Group III nitride semiconductor, and heat-treating the film and the semiconductor layer until a predetermined amount of Si is diffused as an impurity into the semiconductor layer. This method is nowhere disclosed or suggested in the cited reference.

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The Office Action cites Herner '147 as allegedly disclosing a Ti film on a Si film, which are annealed at 800 deg. C on the surface of a semiconductor material including a Group III nitride semiconductor, which is not the same method as "forming a film comprising Si and Ti on a surface of a layer of a Group III nitride semiconductor", as recited in applicants' claim 1. Herner '147, Fig. 2, discloses three separate steps, namely forming a first semiconductor region containing Si, then forming on that first region a second semiconductor region containing Si, and then forming a Ti film on that second region. This successive arrangement is not the same thing as forming "a film containing Si and Ti" on the surface of the semiconductor, as recited in applicants' claim 1.

Moreover, Herner '147, paragraph 0024, describes block 56 of Fig. 2 as forming a TiSi layer by heat treatment. But, Herner '147 does not disclose such film/layer formation as diffusing Si as a dopant in the semiconductor layer as recited in applicants' claim 1, and there is nothing in the present record disclosing that such doping would occur.

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For the foregoing reasons, Herner '147 fails to disclose all elements of applicants' claimed invention, and therefore is not a proper basis for rejection under §102. And, there is no disclosure or teaching in Herner '147 that would have suggested the desirability of modifying any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Claims 2 and 3, which depend from claim 1, are allowable for the same reasons explained herein for claim 1. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

All claims 1-3 are now proper in form and patentably distinguished over all grounds of rejection stated in the Office Action. Accordingly, allowance of all claims 1-3 is respectfully requested.

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Should the Examiner deem that any further action by the applicants would be desirable to place this application in even better condition for issue, the Examiner is requested to telephone applicants' undersigned representatives.

Respectfully submitted,

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